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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/004,304

11/02/2001

Anuj Batra

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EXAMINER

LY, ANH VU H

ART UNIT

PAPER NUMBER

2616

NOTIFICATION DATE

DELIVERY MODE

06/11/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Office Action Summary**

Application No.

10/004,304

Applicant(s)

BATRA ET AL.

Examiner

Anh-Vu H. Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20,22-27 and 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20,22-27 and 29 is/are rejected.
- 7) ☒ Claim(s) 20,22 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Response to Amendment***

1. This communication is in response to applicant's amendment filed February 26, 2007.

Claims 20, 22-27, and 29 are pending.

### ***Claim Objections***

2. Claims 20, 22 and 26 are objected to because of the following informalities:

With respect to claim 20, in line 10, replace "master-to-slave slot time slot" with --master-to-slave time slot--.

With respect to claim 22, Examiner would like to point out that claim 22 canceled in the Amendment filed June 21, 2006. Therefore, claim 22 of the Amendment filed February 26, 2007, in fact, was claim 21 of the Amendment filed June 21, 2006. Examiner believes this is just a typographical error. Besides, the status of claim 22 indicates "Currently Amended"; however, no changes were made to the claim by the Amendment.

With respect to claim 26, in line 8, replace "in a in response" with --in a response--.

Further, in line 12, replace "the packet" with --a packet--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 20 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia-Luna-Aceves et al. (US Pub 2002/0141479 A1) in view of Shellhammer et al (US Patent No. 7,039,358 B1). Hereinafter, referred to as Garcia-Luna-Aceves and Shellhammer.

With respect to claim 20, Garcia-Luna-Aceves discloses a method of communication in a frequency hopping wireless network using a time-division duplex (TDD) scheme having a plurality of time slots (Fig. 1) divide into a plurality of master-to-slave slots (Fig. 1, at frequency hop h1, t1 and t9 are used by node x) and a plurality of slave-to-master slots (Fig. 1, at frequency hop h1, t2-t8 are used by node y) comprising:

initiating communication from a master device to a slave device on a first channel (Fig. 1, at frequency hop h1 and t1, node x initiates a communication between node x and node y by sending a RTR control packet to node y. Herein, node x is the master device and node y is the slave device, as considered by examiner); and

responding to the master device from the slave device on the first channel (Fig. 1, at frequency hop h1 and t2, node y sends data to node x after receiving the RTR control packet),

wherein the initiating communication from the master device comprises sending data to the slave device in a master-to-slave time slot on the first channel (Fig. 1, at frequency hop h1, node x initiates a communication between node x and node y by sending a RTR control packet to node y on time slot t1), and the packet from the slave device is transmitted in a slave-to-master time slot immediately following the master-to-slave time slot on the first channel (Fig. 1, at frequency hop h1, node y sends data to node x in time slot t2, which is adjacent to first time slot t1).

Garcia-Luna-Aceves does not disclose that wherein the plurality of master-to-slave slots are even slots and the plurality of slave-to-master slots are odd slots. Shellhammer discloses that the master transmitting on even slots and the slaves transmitting on odd slots (col. 7, lines 49-51). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the master transmitting on even slots and the slaves transmitting on odd slots in Garcia-Luna-Aceves's system, as suggested by Shellhammer, to coordinate data transmission.

With respect to claim 22, Garcia-Luna-Aceves discloses that wherein the slave responding to the master device comprising transmitting a packet to the master device on the first channel (Fig. 1, node y sends data to node x on frequency hop h1), wherein the first channel is used for transmission during entire length of the packet (page 4, 60<sup>th</sup> paragraph, at a data rate of 1 Mbps, four hundred millisecond hop time limit provides ample time for transmitting entire data packets and packet trains).

With respect to claim 23, Garcia-Luna-Aceves discloses that wherein the wireless network is a Bluetooth wireless network (page 2, 13<sup>th</sup> paragraph and Fig. 2 – a MAC protocol taking advantage of characteristics of FHSS radios operating in ISM bands while assuring that transmissions are free of collisions. It is known that Bluetooth frequency band is also an ISM band, 2.4 GHz band).

With respect to claim 24, Garcia-Luna-Aceves discloses that wherein the first channel is selected via a random hopping sequence (Fig. 2, at step 14, engaging over a channel hop only

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when data is available for sending. This implies that random channel hop in the common channel hopping sequence is selected only when data is available, e.g., channel hop h1, h2, h3, etc...).

With respect to claim 25, Garcia-Luna-Aceves discloses that wherein the first channel is selected via an intelligent frequency hopping sequence (Fig. 1 illustrates that channel hop h1 is selected right away or intelligently selected when data is available for transferring between nodes x and y).

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 26, 27, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Garcia-Luna-Aceves et al. (US Pub 2002/0141479 A1). Hereinafter, referred to as Garcia-Luna-Aceves.

With respect to claim 26, Garcia-Luna-Aceves discloses a system for communication in a frequency hopping wireless network comprising:

a master device (Fig. 1, at frequency hop h1, node x is the master device); and

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at least one slave device communicatively coupled to the master device (Fig. 1, at frequency hop h1, node y is the slave device coupled to node x), wherein the master device is configured to initiate communication with the slave device on a first channel (Fig. 1, at frequency hop h1 and t1, node x initiates a communication between node x and node y by sending a RTR control packet to node y); and

the slave device is configured to transmit data to the master device on the first channel in a response to the master device initiating the communication (Fig. 1, at frequency hop h1 and t2, node y sends data to node x after receiving the RTR control packet),

wherein the master device is further configured to send data to the slave device in a master-to-slave time slot on the first channel (Fig. 1, at frequency hop h1, node x initiates a communication between node x and node y by sending a RTR control packet to node y on time slot t1), and the slave device is further configured to transmit a packet in a slave-to-master time slot immediately following the master-to-slave time slot on the first channel (Fig. 1, at frequency hop h1, node y sends data to node x in time slot t2, which is adjacent to first time slot t1).

With respect to claim 27, Garcia-Luna-Aceves discloses that wherein the slave responding to the master device comprising transmitting a packet to the master device on the first channel (Fig. 1, node y sends data to node x on frequency hop h1), wherein the first channel is used for transmission during entire length of the packet (page 4, 60<sup>th</sup> paragraph, at a data rate of 1 Mbps, four hundred millisecond hop time limit provides ample time for transmitting entire data packets and packet trains).

With respect to claim 29, Garcia-Luna-Aceves discloses that wherein the wireless network is a Bluetooth wireless network (page 2, 13<sup>th</sup> paragraph and Fig. 2 – a MAC protocol taking advantage of characteristics of FHSS radios operating in ISM bands while assuring that transmissions are free of collisions. It is known that Bluetooth frequency band is also an ISM band, 2.4 GHz band).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 20, 22-27, and 29 have been considered but are moot in view of the new ground(s) of rejection.

Applicants' arguments, stated in pages 5-7 of the Amendment filed February 26, 2007, are not directed to the claimed invention. Applicants must indicate which limitation(s) as recited in which particular claim(s) is/are not taught or disclosed by Garcia-Luna-Aceves. Applicants can not merely argue the features described in the patent application as not taught by Garcia-Luna-Aceves. Those features are not part of the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Further, Examiner would like to point out that "data" as recited in independent claims 20 and 26 can be either control data and/or information data. Therefore, "RTR" and "ACK" are control data.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



Miklos et al (US 2003/0092386 A1) discloses predictable communication establishment in ad-hoc wireless network.

Batra (US 2003/0058829 A1) discloses structured adaptive frequency hopping.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H. Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

avl



CHI PHAM  
SUPERVISORY PATENT EXAMINER

6/5/08